




# A LONG TERM VISION FOR THE FUTURE OF WATER SUPPLY IN KANSAS

Update to the Kansas Environmental Conference  
August 10, 2016



*Kansans act on a shared commitment to have the water resources necessary to support the state's social, economic and natural resource needs for current and future generations.*

# Blue Ribbon Funding Task Force

- Sen. Larry Powell
- Sen. Jim Denning
- Sen. Tom Hawk
- Rep. Sharon Schwartz
- Rep. Steven Johnson
- Rep. Jerry Henry
- Terry Holdren, KFB
- Erik Sartorius, LKM
- Randall Allen, KAC
- Matt Teagarden, KLA
- Colin Hanson, KMU
- Dennis Schwartz, KRWA
- Tom Tunnel, KARA/KGFA
- Karma Mason, KS Chamber
- John Bridson, Westar
- Gary Harsberger, KWA

# Vision for the Future of Water Supply

## Implementation Costs - \$45,900,000

	Water Conservation	Water Management	Technology and Crop Varieties	Additional Sources of Water
Research		\$300,000	\$3,000,000	\$500,000
Education and Outreach	Presented at April Meeting			
Actions and Practices	\$22,000,000	\$100,000	\$1,500,000	\$17,500,000
Administration	Should agency administration be paid from implementation funds?			
Total	\$22,000,000	\$400,000	\$4,500,000	\$19,000,000

# Vision for the Future of Water Supply

## Implementation Costs - \$50,050,000

	Water Conservation	Water Management	Technology and Crop Varieties	Additional Sources of Water
Research		\$300,000	\$3,000,000	\$500,000
Education and Outreach	\$4,250,000			
Actions and Practices	\$21,900,000	\$100,000	\$1,500,000	\$17,500,000
Administration	Should agency administration be paid from implementation funds?			
Total	\$26,150,000	\$400,000	\$4,500,000	\$19,000,000

# Public Input Funding Needs

## Not Included in Previous Known Demands

### Technology and Crop Varieties

Technology and Crop	Action	Cost
Research	Research & develop wastewater treatment technologies which provide water quality and quantity suitable for livestock consumption to promote reuse of wastewater generated by livestock facilities.	\$1,000,000
	Research & develop sensors, control, and mechanical devices that will reliably control and limit wintertime overflows from livestock water supply tanks.	\$500,000
Education and Outreach	Extension Systems Ag Research Programs	\$5,000,000
Actions and Practices		
Administration		
Total		\$6,500,000

# Vision for the Future of Water Supply

## Implementation Costs - \$56,550,000

	Water Conservation	Water Management	Technology and Crop Varieties	Additional Sources of Water
Research		\$300,000	\$4,500,000	\$500,000
Education and Outreach	\$4,250,000		\$5,000,000	
Actions and Practices	\$21,900,000	\$100,000	\$1,500,000	\$17,500,000
Administration	Should agency administration be paid from implementation funds?			
<b>Total</b>	\$26,150,000	\$400,000	\$11,000,000	\$19,000,000

\*Does not include all actions from plans being developed by Regional Advisory Committees

# Water Conservation Costs

Water Conservation	Action	Cost
Research		
Education and Outreach	Strategic Education Plan	\$ 4,250,000
Actions and Practices		
	Implementation of Best Management Practices	\$ 15,500,000
	Streambank Stabilization	\$ 5,000,000
	Construction of Watershed Dams	\$ 1,000,000
	CREP Implementation	\$ 400,000
Administration		
<b>Total</b>		<b>\$ 26,150,000</b>

# Water Management

Water Management	Action	Cost
Research		
	Kansas River Stream Aquifer Model	\$ 160,000
	Kansas River Alluvial Index Well Network	\$ 40,000
	Kanapolis Reallocation Feasibility Study	\$ 100,000
Education and Outreach		
Actions and Practices		
	Planning & Technical Assistance for PWS	\$ 100,000
Administration		
Total		\$ 400,000



# Technology and Crop Varieties

Technology and Crop	Action	Cost
Research	Stream Gaging Network	\$ 500,000
	LiDAR Aquisition	\$ 60,000
	Bathymetric Surveys	\$ 150,000
	Sediment Coring	\$ 50,000
	In-stream Sediment Monitoring	\$ 150,000
	Expand High Plains Index Well Network	\$ 65,000
	Less Water Intensive Crop Research	\$ 2,000,000
	Livestock Wastewater Treatment	\$ 1,000,000
	Livestock Water Supply Tank Overflow	\$ 500,000
	Extension Systems Ag Research Programs	\$ 5,000,000
Actions and Practices	Maintenance of hydrogeologic models	\$ 25,000
	Irrigation Technology Adoption	\$ 1,500,000
Administration		
<b>Total</b>		<b>\$ 11,000,000</b>

# Additional Sources of Supply

Additional Sources	Action	Cost
Research	Identify additional reservoir sites & Feasibility	\$ 200,000
	Model to Assess Chloride Remediation of Equus Beds	\$ 200,000
	Expand models of aquifers containing brackish water	\$ 30,000
	Research Treatment of Lower Quality Water	\$ 120,000
Education and Outreach		
Actions and Practices	Call into service storage at Milford and Perry	\$ 3,322,269
	Construct MPSL reservoirs	\$ 2,000,000
	Minimum Pool Agreements in the Solomon-Republican	\$ 100,000
	Sediment Removal	\$ 10,000,000
	Nitrate Removal/Remediation in PWS	\$ 2,000,000
	Projects to remediate brackish water	\$ 1,000,000
Administration		
<b>Total</b>		<b>\$ 18,972,269</b>

# Education and Public Outreach Coordinating Team

## ■ Sub-groups

- *Community Facilitation and Learning*
- *K-12 Curriculum and Career and Technical Education*
- *Out-of-Classroom Youth Education*  
(Ex. 4-H, FFA, Scouts, After School Programs)
- *Media and Public Outreach Campaigns*
- *Workforce Development*



**Assign a coordinating team to oversee working groups to develop a multi-phased educational proposal for target audiences of K-12, community leaders, and media to promote local conservation decisions. Existing educational efforts, programs and activities should be incorporated as appropriate**

# Water Vision Education & Public Outreach

- Working Group Meetings open to the public: September 8, 2016 and October 6, 12:30 p.m. at Kansas Farm Bureau, Manhattan, KS
- Supplement to Vision Document
- Draft proposal presented to RACs, KWA, and others for final approval by KWA in October
- Presented at the Governor's Conference on November 14, 2016

# John Redmond Dredging Initiative

<https://www.youtube.com/watch?v=S1-DtntHz2o&feature=youtu.be>

- 1<sup>st</sup> water supply dredging project at USACE project in the US
- Dredging commenced in May
- 3,000,000 cubic yards to be removed
- Currently 50% complete



*Remove and dispose up to three million cubic yards of sediment from John Redmond Reservoir*



# Securing Interstate Waters.....

- Reviewed by Pope and Rolfs in the Aqueduct Study
- 2015 Legislation – Sen Sub for HB 2059/SB 332
- KWA action regarding HB 2059
- All waters leaving Kansas?
  - *Quantification of volumes?*
  - *Process*
    - Options identified in Aqueduct
- KWA recognizes need to follow up on Pope and Rolfs efforts
- Peck, Pope, Rolfs & Briggs meet to discuss options
  - *Proposal anticipated in mid-August*
  - *Discussion likely at September 1 KWA Meeting*

***Complete evaluation of large water transfers including legal, environmental, economic and technical issues***

# Republican River Damage Funds

- CO – NE – KS Compact
  - *Plans developed to ensure future compliance*
- SCOTUS Ruling - \$5.5M to KS
  - *\$3.5M for projects*
    - 20 miles of open canal converted to pipe at KBID
    - Study underway to evaluate 3 potential reservoir sites outside of KBID



*Improve opportunities for local stakeholders to engage in and provide input on interstate water issues*

# Regional Advisory Committees (RACs)

- A year ago, KWA appointed 160 volunteers to the newly created 14 RACs
- Since, many meetings held developing action plans to implement regional Water Vision goals
  - *50+ actions plans completed or near completion*
    - Some underway.....
  - *KWA to consider approval of action plans in September and October*



***Regional Planning Areas will be developed to represent the varied and unique water resource conditions that exist throughout the state.***



# Water Conservation Areas (WCAs)

- Voluntary water conservation program for individual or groups of water right owners
- Three completed consent agreements (Franklin Family, Westside Dairy, T&O Farms)
- Many in active development phase
- Seeking adjustments to WCA statute in 2017 Legislative Session to clarify opportunities for water right flexibilities for those who enroll in WCAs
- LEMA expansion plans for GMD #4
- Success from the Sheridan Coi

*Expand the LEMA concept so a proposal can come forward to the Chief Engineer from either GMDs, directly from local water right holders or other entities such as county conservation districts*

# Water Technology Farms

- 3 farms established for the 2016 growing season
  - *T & O Farms (Finney Co)*
  - *ILS/WaterPack (Pawnee Co)*
  - *Roth Farms/Garden City Co (Finney Co)*
- KSU providing technical assistance at all 3
- Need more WTFs! At least one in each region....

## FIELD DAY

August 2, 2016  
10 a.m.

*Water Technology Farm* – T&O Farms, LLC

South of Garden City on Hwy 83 (15.5 miles) • Turn west on T.V. Rd • Turn south on Stone Rd • Location on east side at large outbuilding (see back)

RSVP to the Kansas Water Office  
by July 26  
1-888-KAN-WATER  
kwo-info@kwo.ks.gov

### AGENDA

#### Welcome

Tom Willis

#### Comments

Governor Brownback

#### Role of Water Technology Farms

Tracy Streeter

#### Introduce Partners

#### Technical Briefings

KSRE, Jonathan Aguilar  
Seaman Crop Consulting, Loren Seaman  
Dragon-Line, Monty Teeter

Water Conservation Area, KDA-DWR

#### Tour of Farm

#### Lunch Provided

by Conestoga Energy Partners

### SPONSORS

T&O Farms, LLC (Tom Willis)

Kansas Water Office

Kansas Department of Agriculture

United Sorghum Check-off Program

Kansas Corn Commission

Seaman Crop Consulting

SW Groundwater Management District #3

Conestoga Energy Partners

Teeter Irrigation

Dragon-Line

Helena

Kansas Geological Survey

Ogallala Aquifer Program

Syngenta

Hortau

Servi-Tech Expanded Premium Services

Kansas Farm Bureau

K-State- Mesonet

AquaSpy

CropMetrics

Netafim

Valley Irrigation

Presley Solutions

*A public-private project for the conservation of the Ogallala aquifer  
implemented as part of the Kansas Water Vision*

***Develop Water Technology Farms at locations throughout the Ogallala-High Plains Region, targeting Local Enhanced Management Areas (LEMAs) by working in concert with irrigation technology manufacturers and the irrigation research community***

# Lower Quality Water Use/Reuse

- Produced Water
- Treated Effluent
- Saline waters
- Livestock facilities

Compile inventory of lower quality waters, including type, quantity and location, as well as, an assessment of potential uses and contaminants contained in water.

# Kickapoo Tribal Water Right Settlement

- Kickapoo Tribe is federally recognized Indian Tribe; Under the *Winters* doctrine, Tribe has a federal reserved water right with a priority date of October 24, 1832
- Tribe filed lawsuit in June 2006 asking Kansas to condemn land and recognize the Tribal Water Right. The land issue was resolved by the Court in early 2014; the suit now focuses exclusively on the Tribal Water Right. Parties (Tribe, Kansas, USA) agreed to suspend active litigation to negotiate a resolution. Global Settlement Agreement reached among all parties in December 2015
- During times of shortage, when the Tribe is unable to meet its direct demands or when its storage is below target levels, the Tribe may request curtailment of upstream water rights
- Indian Water Settlement agreements require Congressional approval

***Kansas has four Native American Tribes. Each is afforded a Tribal Reserved Water Right Reserve Water Rights by the federal government, which is linked to the creation of each tribal reservation. The future management and use of our water resources must take into account these rights, which are likely to have the most seniority in the state.***

# Impairment Legislation

- Considering potential changes to 82a-717a - Diversions by common-law claimants and others; injunctions
- Changes for discussion include streamlining the impairment process so that a claimant seeks administrative relief prior to judicial relief
- Allows for temporary order to curtail pumping under certain criteria
- Chief engineer decision still reviewable under Kansas judicial review act
- Identify and review cases related to states with administrative monopoly on impairment investigations to ensure any proposed Kansas statutory changes protect separation of powers

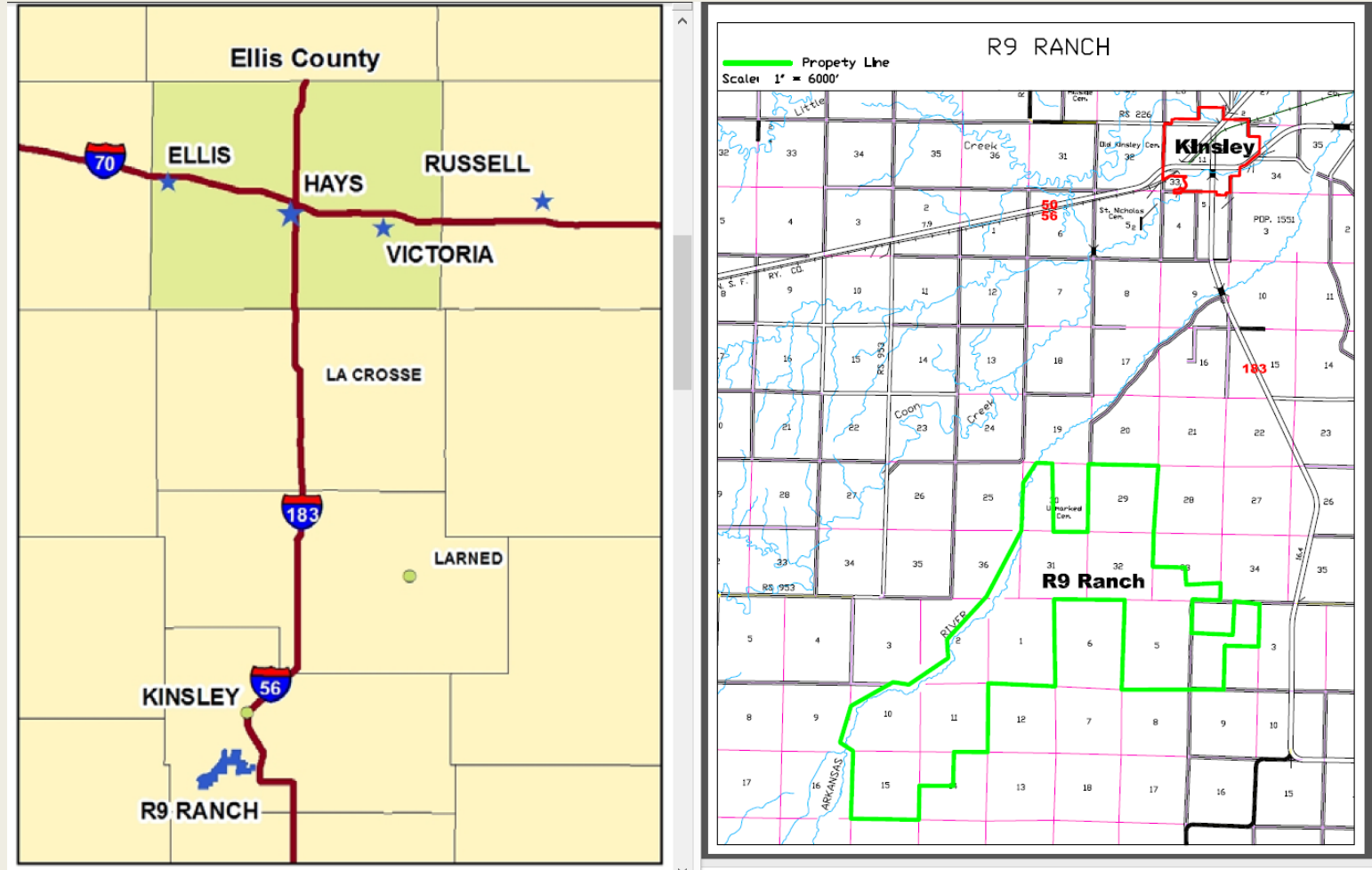
*Evaluate changes to the Kansas Water Appropriation Act and Rules and Regulations to promote better balance between efficient water use and economic benefit*

# Water Right Violations Rules & Regulations

- Penalty matrix organized to assess penalties based on the number of prior violations within a five year period and the severity of penalty
- All penalties, whether for overpumping or other violations of a water right, will be enforced against the owner(s) of the water right and transferred with the water
- KDA intention was to ensure the penalty matrix was based on public input and is readily available (transparency); however, Attorney General's office is encouraging a transition from Rules & Regulations to Guidance Documents (avoiding self-regulating)
- KDA actively working with Chair of Legislative Rules & Regs Committee to ensure this is implemented appropriately

*Increase enforcement and implement more stringent fees and penalties for over pumping and other violations.  
This action will include a regulatory change with full comment period*

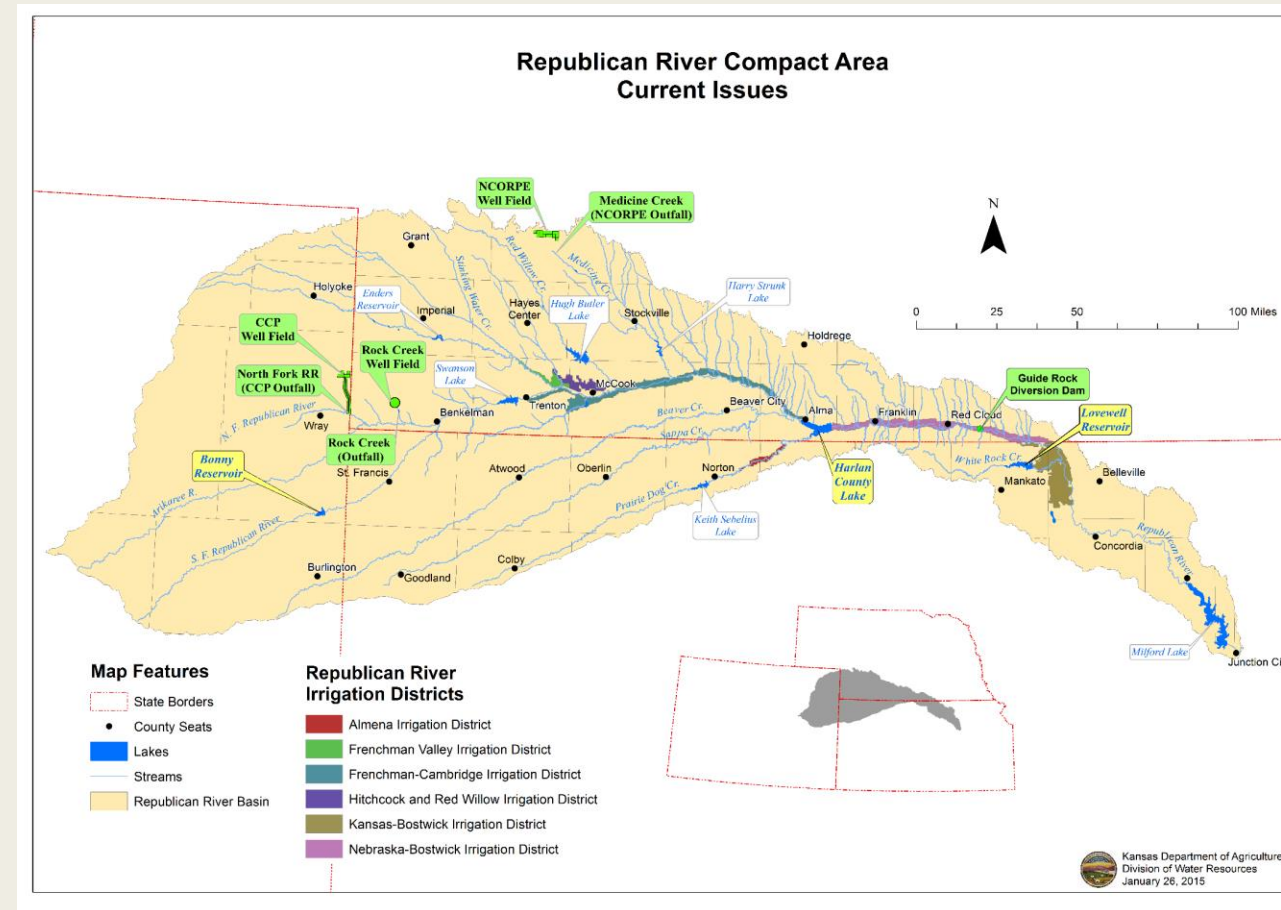
# Hays/R9 Water Transfer



*Allow for the transfer of water supplies between basins where feasible and cost effective*



# Interstate Water Issues



*Develop a long term strategy for representing Kansas in interstate water issues that best serves Kansas and its citizens*





# Save the Date!



**Governor's Conference on the Future of Water in Kansas**

**November 14-15, 2016**

**Hilton Garden Inn, Manhattan, Kansas**

[www.kwo.org](http://www.kwo.org)

# QUESTIONS & DISCUSSION

Water Congress  
July 2016